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(56) Documents cited

GB 2229987 A

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EP 0050000 A1

US 4887735 A

(58) Field of search

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INT CL<sup>5</sup> B65D

(54) Closures for containers

(57) A collar 2 for fixing a lid 3 to a container 1, particularly for paint, so as to form a substantially gas impermeable closure for the container. Substantially gas impermeable seals are formed between the container mouth 4 and the collar 2 and between the collar 2 and the lid 3. The collar is removably attachable to the mouth of the container and the container lid is removably attachable to the collar. The collar may also have a handle for carrying the container, a brush wiping lip (12, Figure 6) or a depression (25) to aid pouring of liquids from the container.

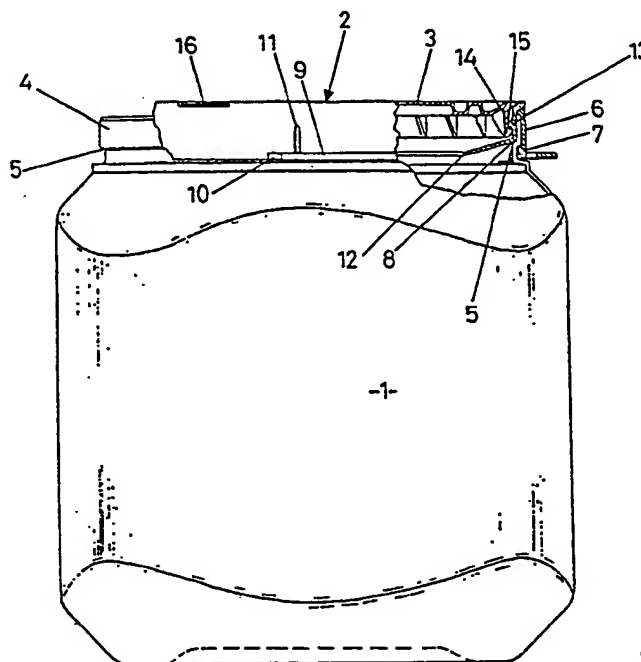


FIG 1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

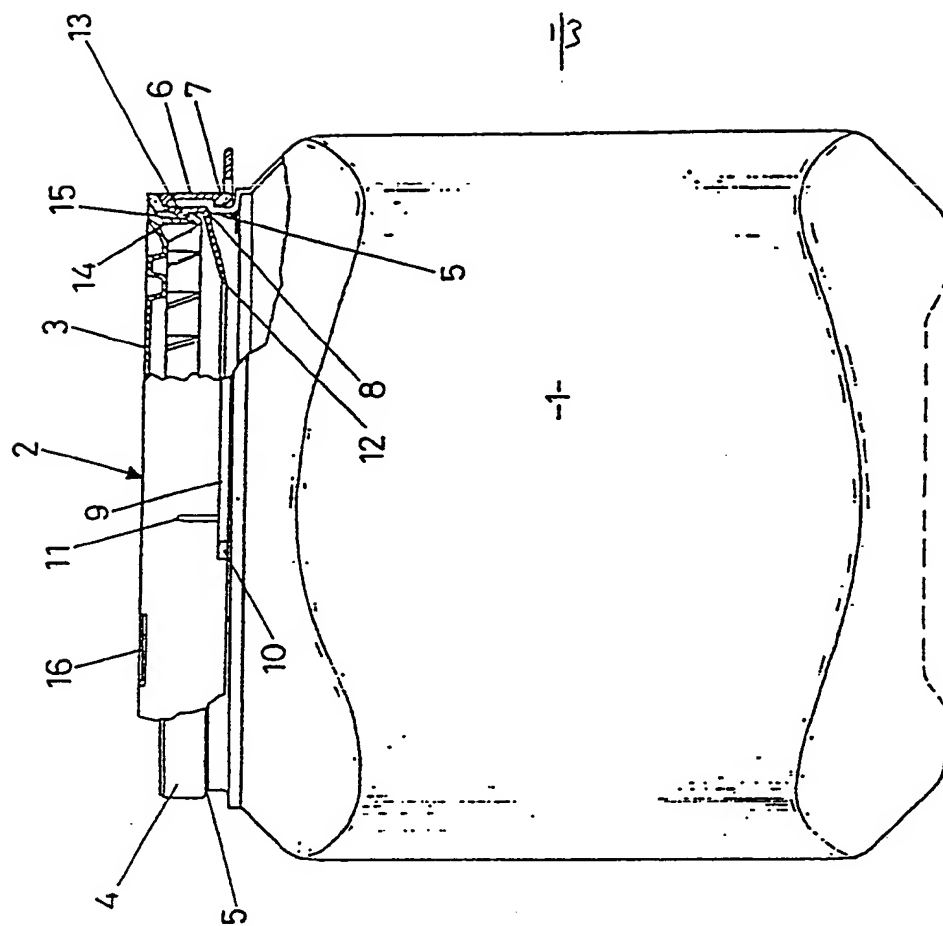


FIG 1

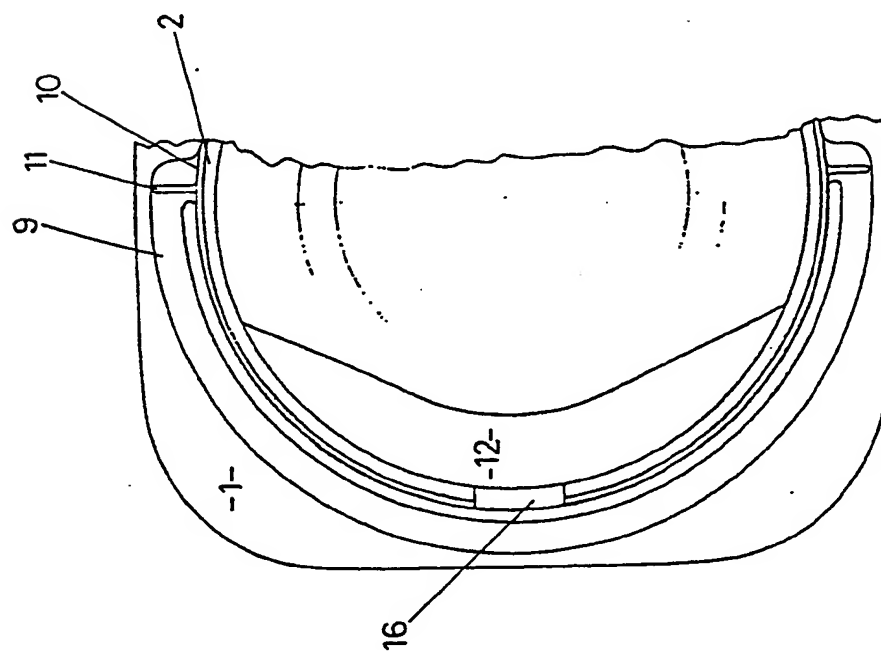


FIG 2

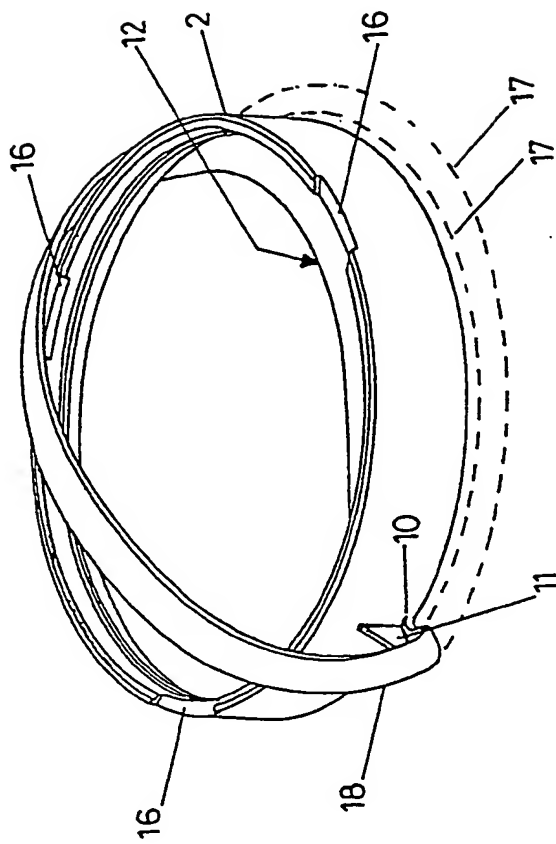
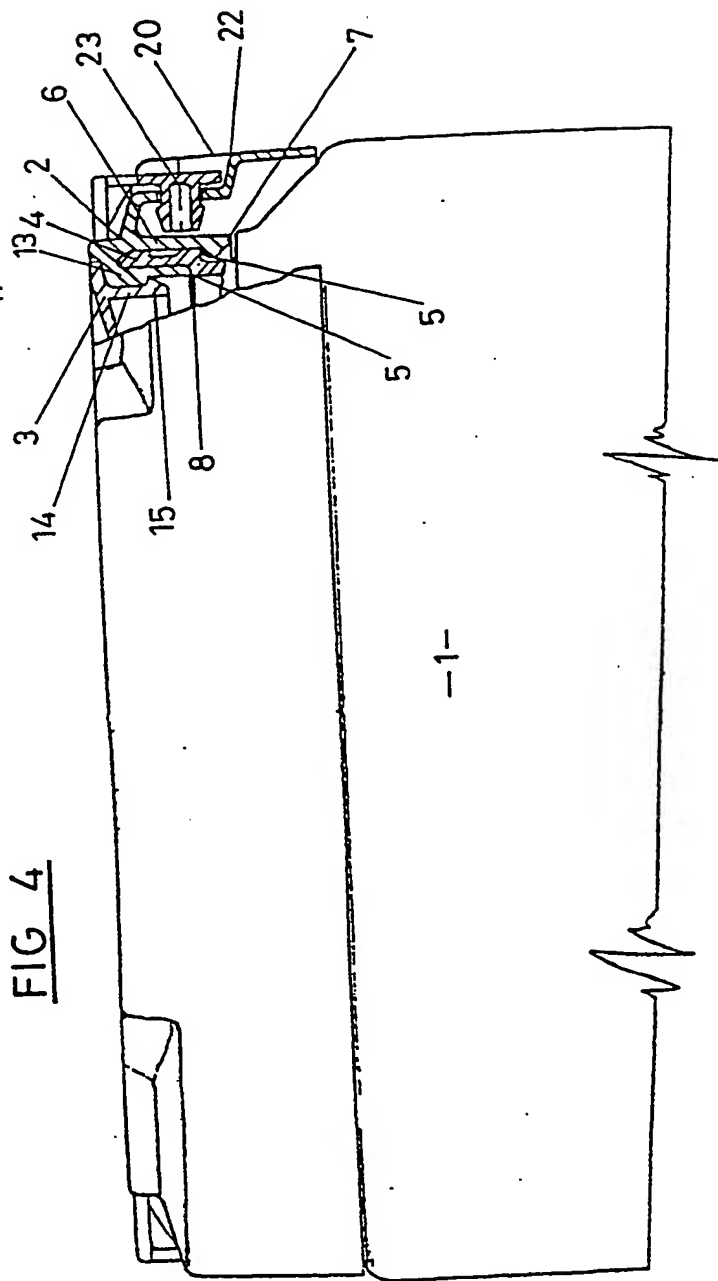


FIG 3

$\frac{y_2}{3}$

FIG 4



-1-

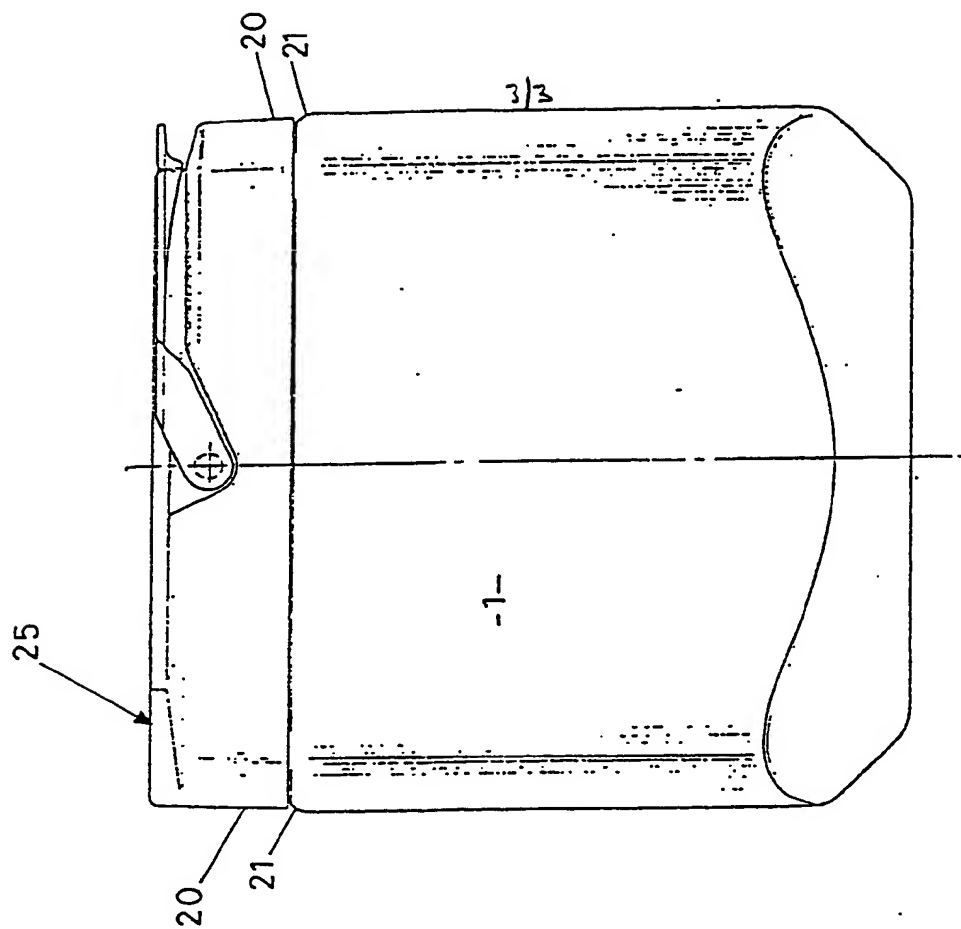


FIG 5

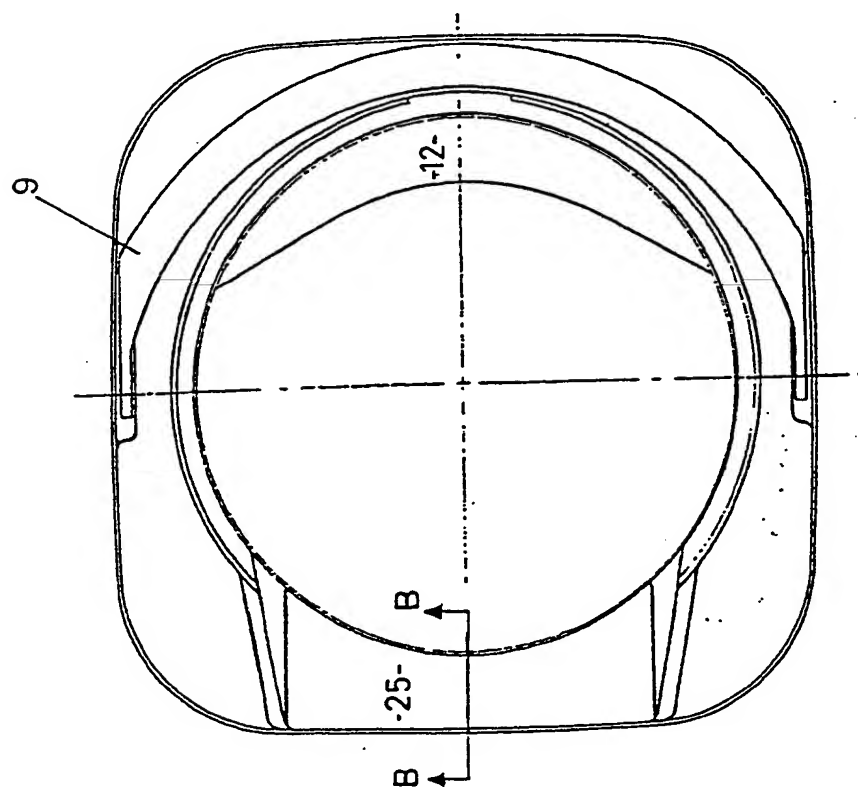


FIG 6

## DESCRIPTION OF INVENTION

Title: Improvements in or Relating to Closures for Containers

This invention relates to closures for containers and has been devised particularly but not solely for those containers used to store liquids, such as paint, in gas tight conditions.

5 It is an object of the present invention to provide a closure for a container which will at least provide the public with a useful choice.

Accordingly in one aspect the invention consists in a collar for fixing a lid to a container said collar and said lid in use forming a substantially gas impermeable closure for the container, said container having a base and a continuous wall extending therefrom, said wall having surfaces defining a container mouth said surfaces having first collar engagement means, said collar  
10 having mouth engagement means for attaching said collar to said mouth such that said collar is removably attachable to said mouth, and said mouth engagement means in use establishing a substantially gas impermeable seal with said first collar engagement means.

15 In a further aspect the invention consists in a combination of a collar as aforesaid, a container and a lid said combination in use forming a closure for said container.

To those skilled in the art to which the invention relates, many changes in construction and widely differing embodiments and applications of the invention  
20 will suggest themselves without departing from the scope of the invention as defined in the appended claims. The disclosures and the descriptions herein are purely illustrative and are not intended to be in any sense limiting.

The invention consists in the foregoing and also envisages constructions of which the following gives examples only.

25 Figure 1 is an elevational view in part section showing a container and a closure according to the present invention.

Figure 2 is a part plan view of the container and closure of Figure 1,

Figure 3 is a perspective view of a part of the closure of Figure 1,

Figure 4 is a part section view in elevation of a container having an  
30 alternative closure according to the present invention,

Figure 5 is an elevational view of the container of Figure 4 from a

different angle, and

Figure 6 is a plan view of the container of Figures 4 and 5.

Referring to the drawings, Figure 1 shows a container 1 constructed from a plastics material eg Polyethylene Terephthalates (P.E.T.), having a closure comprising a collar generally referenced 2 and a lid 3. The collar 2 has walls which surround a mouth 4 of the container when it is engaged therewith. The outer collar shoulders 5 on the surfaces of the mouth of the container comprise first collar engagement means which engage with mouth engagement means on the collar comprising flange 6 and bead 7 at the base thereof on the outside of the collar and edge 8 at the base of an inner surface of the collar.

The collar also has a handle 9 which is either integrally moulded as part of the collar from e.g. a plastics material or is otherwise attached to the collar. The handle and the attachment of the handle to the collar is also seen in Figure 2 in which the lid 3 is not shown. It will also be seen from Figures 1 and 2 that a lip 12 is present being dependent from an inner surface of the collar. The collar also has lid engagement means comprising inner collar shoulder 13 which is located above edge 8 on an inner surface of the collar. The lid 3 has second collar engagement means comprising flange 14 and bead 15 at the base thereof. A number of gaps in the uppermost edge of collar 2 are also provided. There are three gaps or indentation referenced 16 in the drawings and it will be seen from Figure 1 that these allow limited access to flange 14 of the lid.

In Figure 3 the collar alone is shown allowing a clearer view of handle 9 in an upright position with dotted lines 17 showing the position of the handle as it is when not in use and as shown in Figures 1 and 2.

If the handle is moulded from a plastics material e.g. polyethylene or polypropylene the inherent flexibility of the material allows the handle to bend at points 18, near the connection areas 10 on the collar and the webs 11.

Referring to Figure 4 an alternative closure is shown for a container which is substantially similar to that shown in Figures 1 and 2. The part section through the mouth of the container and the collar shows the engagement of the collar and lid and the attachment of the handle 9 to the collar. In this

alternative embodiment the container 1 has a mouth 4, a collar 2 and a lid 3 which are similar to those described above with reference to Figures 1 and 2. Similarly the mouth 4 has first collar engagement means comprising edges 5 and the collar has mouth engagement means comprising flange 6 and bead 7 at the base thereof and edge 8 at the base of an inner surface of the collar. The collar also has lid engagement means comprising bead 13, and second collar engagement means comprising flange 14 and bead 15 are provided in lid 3 for engagement with collar 2.

The main difference between the two embodiments is seen in Figures 4 and 5 where the collar has an additional outer surface comprising a shroud 20 which extends from the level of the lid to the shoulders 21 of the container, altering the appearance of the container. Also, attachment of the handle 9 to the collar is effected by handle engagement means comprising a hole 22 in a part of the collar in which a handle engagement member 23 is disposed for attaching the handle. The handle is constructed separately from the collar and is moulded from eg a plastics material. From Figure 6 it will also be seen that this alternative collar also includes a depression 25 located in an upper surface of the collar and disposed on the opposite periphery from lip 12.

In use, each of the containers may be used with their associated collars, which provide a handle for the container, or if desired the collars are removed for each container to be used on its own without a handle. From Figure 3 it will be seen that the handle of the first embodiment is usually disposed about the area indicated by dashed lines 17 when not in use. When used to carry the pail a user grasps the handle which flexes about points 18 near the attachment of the handle to the collar. When the handle of the second embodiment is used to carry the container the handle engagement members 23, Figure 4, pivot within the holes 22 in the collar. The lip 12 is intended to be used as a brush wiping device so that if the container holds a liquid e.g. paint which is to be applied using a brush, the brush may be wiped on the lip 12 such that the excess paint will be returned to the interior of the container when the brush is wiped on the lip. Also, depression 25 acts as a pouring depression so that liquids e.g. paint

are easily poured from the container. The sealing engagements formed between the lid and the collar and the collar and the mouth of the container substantially prevent the passage of gases or liquids, so that the contents of the container are sealably enclosed within the container. To engage the collar with the mouth of the container a user positions the collar 2 over the upper edge of the mouth 4 and presses downwardly so that flange 6 and bead 7 are forced outwardly over the outside surface of the mouth until the bead 7 engages the depression formed by edge 5 in the outer surface of the mouth and the lower edge 8 of the collar engages the edge 5 on an inner surface of the mouth. Forces tending to remove the collar from the mouth will be resisted by bead 7 contacting the edge 5 on the outer surface of the mouth. To disengage the collar from the mouth a user places an edge of a tool e.g. the tip of a screwdriver under the bead 7 and lifts the bead out of engagement with the edge 5 and, when the bead has been disengaged about the circumference of the mouth, lifts the collar off the container mouth.

Similarly, to engage the lid 3 with the collar 2, a user aligns the lid with the collar and presses the lid downwardly forcing bead 15 on flange 14 of the lid to move inwardly against flange 13 before engaging with the underside of flange 13. To remove the lid 13 from the collar 2, a tool e.g. the tip of a screwdriver may be placed in one of slots 16 and a downward force is applied to the handle of the screwdriver then the upper edge of the collar will act as a fulcrum and the end of the screwdriver will tend to lift the edge of the lid 3 in an upward direction and so disengage the engagement means 14 and 15 of the lid from the engagement means 13 on the collar. If this done at all three points around the collar then the lid will be removed.

The invention provides a container having a removable handle and brush wipe facility and since the container and collar are manufactured separately manufacture is simplified and cost is reduced. Also, the choice of a plastics material such as P.E.T. for the container construction provides an indication of the contents, or the level of the contents, of the container, since P.E.T. is naturally clear.



Claims

1. A collar for fixing a lid to a container said collar and said lid in use forming a substantially gas impermeable closure for the container, said container having a base and a continuous wall extending therefrom, said wall having surfaces defining a container mouth said surfaces having first collar engagement means, said collar having mouth engagement means for attaching said collar to said mouth such that said collar is removably attachable to said mouth, and said mouth engagement means in use establishing a substantially gas impermeable seal with said first collar engagement means.
2. A collar as claimed in Claim 1 which includes lid engagement means which are engagable with second collar engagement means on a peripheral surface of said lid such that a substantially gas tight seal is established between said collar and said lid.
3. A collar as claimed in Claim 2 wherein said lid engagement means comprise an inner collar shoulder disposed on an inner surface of said collar.
4. A collar as claimed in any one of the preceding claims wherein a handle for carrying said container is attached to said collar.
5. A collar as claimed in any one of the preceding claims wherein said collar has a shroud about an outer surface thereof, said shroud being configured such that when said collar is engaged with said container mouth, said shroud is disposed externally of said container.
6. A collar as claimed in Claim 5 wherein said shroud includes handle engagement mean for attaching a handle for carrying said container to said collar.
7. A collar as claimed in any one of the preceding claims wherein said collar includes a lip dependant from at least part of an inner surface of said collar, said lip being configured such that when said collar is engaged with said container mouth, said lip is disposed within said container.
8. A collar as claimed in any one of the preceding claims wherein said second collar engagement means comprises a beaded lower edge.
9. A collar as claimed in any one of the preceding claims wherein an upper

surface of said collar has indentations provided therein for removing said lid.

10. A collar for fixing a lid to a container substantially as herein described with reference to, and as illustrated by, the accompanying drawings.

5 11. A combination of a collar as claimed in any one of the preceding claims, a container and a lid, said combination in use forming a closure for said container.

12. A combination as claimed in Claim 11 wherein said first collar engagement means comprise an outer collar shoulder on an outer surface of said mouth.

10 13. A combination as claimed in Claim 11 or Claim 12 wherein said mouth engagement means comprise an inwardly disposed beaded edge provided on an inner surface of said collar, said beaded edge engaging with said shoulder.

14. A combination as claimed in any one of the Claims 11 to 13 wherein said lid has a skirt dependant therefrom, a lower edge of said skirt having a beaded edge thereon.

15 15. A combination of a collar, a container and a lid substantially as herein described with reference to, and as illustrated by, the accompanying drawings.

16. Any novel feature or combination of features described herein.

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**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

Application number

9125876.4

**Relevant Technical fields**

(i) UK CI (Edition K ) B8T (TBB)

(ii) Int CI (Edition 5 ) B65D

**Databases (see over)**

(i) UK Patent Office

(ii)

Search Examiner

T M JAMES

Date of Search

19 MARCH 1992

Documents considered relevant following a search in respect of claims

1 TO 15

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
Y	GB 2229987 A (CROWN BERGER) see items 3, 5 and 11, Figure 3	4, 5, 7
X, Y	GB 2207198 (DART INDUSTRIES) see Figures 2 and 3	X:1-3, 11-13 Y:4, 5, 7
X, Y	EP 0050000 A1 (BERGER, JENSON & NICHOLSON) see Figures 2, 3 and 4 and page 11 lines 12-18	X:1-3, 8, 11-13 Y:4, 5, 7
X, Y	US 4887735 (DUDZIK) see Figures 1 and 2	X:1-3, 11 Y:4, 5, 7

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Category	Identity of document and relevant passages	Relevant to claim(s)

**Categories of documents**

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

**A:** Document indicating technological background and/or state of the art.

**P:** Document published on or after the declared priority date but before the filing date of the present application.

**E:** Patent document published on or after, but with priority date earlier than, the filing date of the present application.

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